

**DOWEX™ MARATHON™ A LB**

A Uniform Particle Size, Strong Base Anion Exchange Resin Specifically Designed for Layered Bed Applications

Product	Type	Matrix	Functional group
DOWEX™ MARATHON™ A LB	Type I strong base anion	Styrene-DVB, gel	Quaternary amine

Guaranteed Sales Specifications		Cl ⁻ form
Total exchange capacity, min.	eq/L	1.2
	kgr/ft³ as CaCO₃	26.2
Water content	%	50 - 56
Uniformity coefficient, max.		1.1

Typical Physical and Chemical Properties		
Mean particle size†	μm	650 ± 50
Whole uncracked beads	%	90
Total swelling (Cl ⁻ → OH ⁻)	%	20
Particle density	g/mL	1.09
Shipping weight	g/L lbs/ft ³	705 44

Recommended Operating Conditions

- Maximum operating temperature:
 - OH⁻ form 60°C (140°F)
 - Cl⁻ form 100°C (212°F)
- pH range 0 - 14
- Bed depth, min. 760 mm (2.5 ft)
- Flow rates:
 - Service/fast rinse 5 - 60 m/h (2 - 24 gpm/ft²)
 - Regeneration/displacement rinse 4 - 10 m/h (1.6 - 4 gpm/ft²)
- Total rinse requirement 3 - 5 Bed volumes
- Regenerant:
 - Type 2 - 4% NaOH

† For additional particle size information, please refer to Particle Size Distribution Cross Reference Chart (Form No. 177-01775)

Typical Properties and Applications

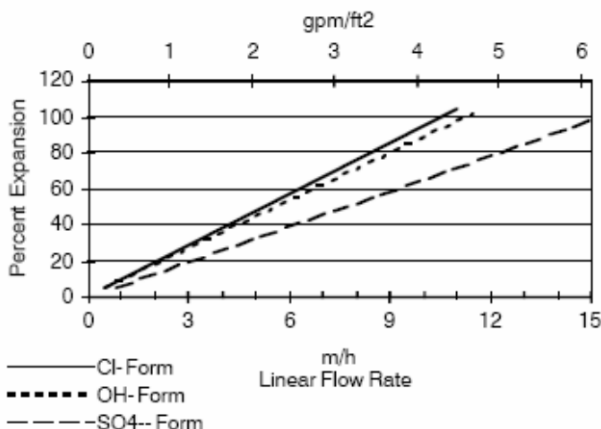
DOWEX™ MARATHON™ A LB strong base anion resin is a uniform particle size resin designed specifically for use in layered anion beds. It is sized roughly 75 microns larger than standard DOWEX MARATHON A resin. When used with DOWEX MARATHON WBA weak base anion resin, the differences in densities and size ensure the resins maintain excellent separation.

Packaging

25 liter bags or 5 cubic foot fiber drums

Figure 1. Backwash Expansion Data

Temperature = 25° C (77° F)



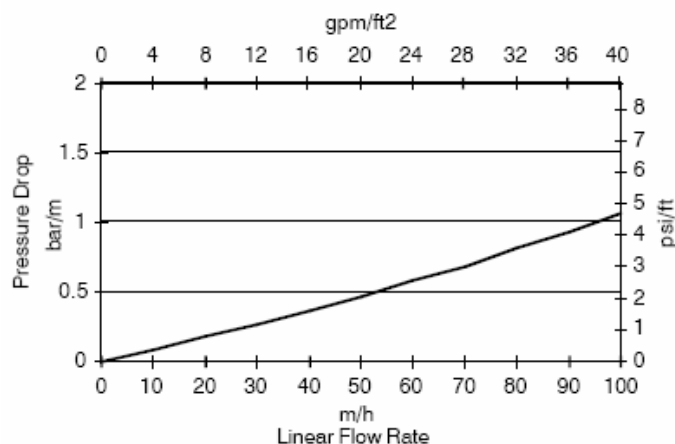
For other temperatures use:

$$F_T = F_{77^\circ F} [1 + 0.008 (T_{\circ F} - 77)], \text{ where } F \equiv \text{gpm/ft}^2$$

$$F_T = F_{25^\circ C} [1 + 0.008 (1.8T_{\circ C} - 45)], \text{ where } F \equiv \text{m/h}$$

Figure 2. Pressure Drop Data

Temperature = 20° C (68° F)



For other temperatures use:

$$P_T = P_{20^\circ C} / (0.026 T_{\circ C} + 0.48), \text{ where } P \equiv \text{bar/m}$$

$$P_T = P_{68^\circ F} / (0.014 T_{\circ F} + 0.05), \text{ where } P \equiv \text{psi/ft}$$

Warning: Oxidizing agents such as nitric acid attack organic ion exchange resins under certain conditions. This could lead to anything from slight resin degradation to a violent exothermic reaction (explosion). Before using strong oxidizing agents, consult sources knowledgeable in handling such materials.

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